

OF GENERAL INTEREST

PROCEEDINGS OF THE SOCIETY

MINUTES OF MEETING

Boston Society of Civil Engineers

JANUARY 27, 1965:—A Joint Meeting of the Boston Society of Civil Engineers with the Metropolitan Chapter, Society of Professional Engineers and the Massachusetts Section of the American Society of Civil Engineers was held this evening at Arthur D. Little Company, Cambridge, Mass., and was called to order at 8:40 P.M., by President John J. Cusack, Metropolitan Chapter, Society of Professional Engineers.

President Cusack called upon Past President John F. Flaherty to conduct any necessary business for the Boston Society of Civil Engineers at this time.

Past President Flaherty stated that the reading of the Minutes of the previous meeting held December 16, 1964 would be published in a forthcoming issue of the Journal and that the reading of those Minutes would be waived unless there was objection.

Past President Flaherty called upon the Secretary to announce names of applicants for membership in the Boston Society of Civil Engineers.

Past President Flaherty requested the Secretary to present a recommendation of the Board of Government to the Society for action. He stated that this matter was before the Society in accordance with the provisions of the By-Laws,

and that notice of such action was published in the ESNE Journal dated January 18, 1965.

Secretary Charles O. Baird, Jr., presented the following recommendation of the Board of Government to the Society for action to be taken at this meeting.

MOTION "to recommend to the Society that the Board of Government be authorized to transfer an amount not to exceed \$6,000 from the Principal of the Permanent Fund to the Current Fund for Current Expenditures."

On MOTION duly made and seconded it was VOTED "that the Board of Government be authorized to transfer an amount not to exceed \$6,000 from the Principal of the Permanent Fund to the Current Fund for Current Expenditures."

Past President Flaherty stated that this was the final action on this matter and turned the meeting back to John J. Cusack, President, Metropolitan Chapter, Society of Professional Engineers, who introduced the guest speaker of the evening, Floyd E. Dominy, Comm. Bureau of Reclamation, Department of the Interior, who gave a most interesting talk on "Glen Canyon."

One hundred ninety members and guests attended the dinner preceding the meeting and 250 members and guests attended the meeting.

The meeting adjourned at 10:15 P.M.

CHARLES O. BAIRD, JR., *Secretary*

FEBRUARY 17, 1965:—A Joint Meeting of the Boston Society of Civil Engineers with the Transportation Section was held this evening at the Society Rooms, 47 Winter Street, Boston, Mass., and was called to order at 7:00 P.M., by President William A. Henderson.

President Henderson stated that the Minutes of the previous meeting January 27, 1965 would be published in a forthcoming issue of the Journal and that the reading of those Minutes would be waived unless there was objection.

President Henderson announced the death of the following member:

David M. Brown, elected a member May 20, 1942, who died January 26, 1965.

The Secretary announced the names of applicants for membership in the Society and that the following had been elected to membership February 17, 1965:

Grade of Member—Robert H. Burrage, Jr., William S. Franz, David B. Goldstein, John P. Hartman,* Ralph A. Kohl, Domenic V. Tutela*
Grade of Junior—Stanley I. Bornstein, Walter W. Massie

President Henderson stated that this was a Joint Meeting with the Transportation Section and turned the meeting over to Ernest A. Herzog, Chairman of that Section to conduct any necessary business of the Transportation Section.

Chairman Herzog introduced the speaker of the evening, Oscar Bakke, Director, Eastern Region, Federal Aviation Authority, who gave a most interesting talk on "Coordinated Transportation."

A discussion period followed the talk.

* Transfer from Junior.

39 members and guests attended the meeting.

Meeting adjourned at 8:50 P.M.

CHARLES O. BAIRD, JR., *Secretary*

MARCH 18, 1965:—The 117th Annual Meeting of the Boston Society of Civil Engineers was held today at the Hotel Vendome, 160 Commonwealth Avenue, Boston, Mass., and was called to order at 4:00 P.M., by President William A. Henderson.

President Henderson announced that the reading of the Minutes of Society meetings had been omitted during the year. The Minutes of the January and February meetings will be published in a forthcoming issue of the Journal. The Minutes of the April, May, Oct., Nov., and December meetings to be declared approved as published.

It was VOTED "to approve the Minutes as published."

The Secretary announced the names of applicants for membership and that the following had been elected to membership March 16, 1965:

Grade of Member—Francis M. Knight, William R. Langrill, Paul D. Guertin.*

The Annual Reports of the Board of Government, Treasurer, Secretary and Auditors were presented. Reports were also made by the following committees:—Hospitality, Library, John R. Freeman, Subsoils of Boston, Membership, Joint Legislative Committee, Education Committee.

It was VOTED "that these reports be placed on file."

The Annual Report of the various Sections were read and it was VOTED "that the Annual Reports of the various Sections be placed on file."

* Transfer from Junior.

President Henderson stated that all foregoing reports would be published in the April, 1965, issue of the Journal.

The Report of the Tellers of Election, Charles A. Parthum and Max D. Sorota was presented and in accordance therewith the President declared the following had been elected Officers for the ensuing year.

President,	Leslie J. Hooper
V-President,	Harry L. Kinsel
Secretary,	Charles O. Baird, Jr.
Treasurer,	Paul A. Dunkerley
Directors	Robert H. Culver
	Myle J. Holley, Jr.

Nominating Committee,	Percival S. Rice
	Marcello J. Guarino
	James P. Archibald

The retiring President William A. Henderson then gave his address entitled "Whither the Boston Society of Civil Engineers?"

Sixty members and guests attended the business meeting.

The meeting adjourned at 5:20 P.M., to re-assemble at 7:00 P.M., The Social Hour and Annual Dinner being held during the interim.

President Henderson called the meeting to order at 7:00 P.M.

Following general remarks and the introduction of the newly elected President, Leslie J. Hooper, and other guests at the head table, President Henderson announced that Honorary Membership in the Society has been conferred on four of the Society's distinguished members, in accordance with the vote of the Board of Government on February 1, 1965.

The Secretary announced the names of the newly elected Honorary Members and asked them to come forward:

Arthur Casagrande, Harry P. Burden,
Ralph W. Horne, Frederic N.
Weaver.

President Henderson presented the newly elected Honorary Members with certificates of Honorary Membership which read as follows:

"Author, Lecturer, Professor, World Wide Consultant, he has contributed unsparingly of his time and effort to place before the Engineering Profession the Theory and the Practice of Soil Mechanics. In recognition of his service as an Engineer and as Past President of this Society

ARTHUR CASAGRANDE
has been duly elected an
Honorary Member
By direction of the Board of
Government
February 1, 1965"

WILLIAM A. HENDERSON, *President*
CHARLES O. BAIRD, JR., *Secretary*

"As Professor and Dean, he has had a long and distinguished career in the art of formative Education in the field of Sanitary Engineering. For his untiring devotion as a Student Adviser and as Past President of this Society

HARRY POOLE BURDEN
has been duly elected an
Honorary Member
By direction of the Board of
Government
February 1, 1965"

WILLIAM A. HENDERSON, *President*
CHARLES O. BAIRD, JR., *Secretary*

"He has attained outstanding achievements in the Field of Sanitary Engineering as a practicing Consultant, and has set an example

for young engineers to follow. He has given freely of his talents to Philanthropic and Governmental Agencies and to this Society as Past President

RALPH WARREN HORNE

has been duly elected an

Honorary Member

By direction of the Board of
Government

February 1, 1965"

WILLIAM A. HENDERSON, *President*

CHARLES O. BAIRD, JR., *Secretary*

"An Engineer's Engineer, a Teacher's Teacher, but most revered as a Student's Professor he has given devoted and untiring service to the Profession and to this Society as Past President

FREDERIC NIXON WEAVER

has been duly elected an

Honorary Member

By direction of the Board of
Government

February 1, 1965"

WILLIAM A. HENDERSON, *President*

CHARLES O. BAIRD, JR., *Secretary*

President Henderson announced that in June, 1964, the Society received \$3,000 from the Directors of Fay, Spofford & Thorndike, Inc., to create a Fund to be called the "Ralph W. Horne Fund," the income from which shall be devoted in part to a prize or certificate to be awarded annually to a Member of BSCE selected by a committee, as having been outstanding in unpaid public service in Municipal, State, or Federal elective or appointive posts; or in Philanthropic activity in the public interest.

On recommendation of the Special Ralph W. Horne Fund Committee the

Board of Government voted to approve recommendation of the committee, namely, that Charles O. Baird, Jr., be the first recipient to receive this Award. President Henderson presented the certificate which read as follows:

"RALPH W. HORNE FUND
AWARD

BOSTON SOCIETY OF
CIVIL ENGINEERS

CHARLES O. BAIRD, JR.

Engineering educator who has given unstintingly of his time and wisdom in unpaid public service and in philanthropic activity, has been selected by the Boston Society of Civil Engineers, by unanimous action of its Board of Government, as the first recipient of the Ralph W. Horne Fund Award, and this certificate is proudly presented to him."

March 18, 1965

William A. Henderson, *President*

President Henderson stated that a number of prizes were awarded annually for worthy papers presented at the Society and Section meetings and also Scholarship Awards. The Secretary read the names of recipients and asked them to come forward and President Henderson presented the following awards and Scholarships (see p. 161):

President Henderson then introduced the guest speaker of the evening, Father Daniel Linehan, S.J., Director of Weston Observatory, who gave a most interesting illustrated talk on "Ancient Civilization of the Incas in Peru and Adjacent Areas."

At the conclusion of the talk, President Henderson turned the meeting over to President-elect, Leslie J. Hooper.

President Hooper presented retiring

<i>Award</i>	<i>Recipient</i>	<i>Paper</i>
Letter of Commendation	Karl R. Kennison	"The Wanderings of the Center of Gravity"
Desmond FitzGerald Medal	Keistutis P. Devenis	"Proposed Dam, Navigation Locks, and Flood Control Pumping Station for the Mystic River Basin"
Clemens Herschel Award	Harry M. Horn	"The Analysis and Design of Antenna Tower Foundations"
Sanitary Section Award	Paul W. Prendiville	"Proposed Pollution Control for the Merrimack River"
Hydraulics Section Award	Ronald T. McLaughlin Lawrence C. Neale	"Prototype Simulation" "Flow Measurements"
Desmond FitzGerald Scholarship	Richard A. Easler of Northeastern University	
William P. Morse Scholarship	Allen B. Potvin of Tufts University	

President William A. Henderson with a certificate of appreciation for services rendered.

Two hundred twenty-seven members and guests attended the dinner and meeting.

The meeting adjourned at 10:00 P.M.

CHARLES O. BAIRD, JR., *Secretary*

CONSTRUCTION SECTION

JANUARY 6, 1965:—A regular meeting of the Construction Section was held this date at the Society Rooms.

The meeting was called to order at

7:15 P.M., by Chairman Leonard Tucker. The Section business included only the election of officers for the upcoming year as follows:

Chairman, Herman G. Protze
Vice-Chairman, Robert J. Van Epps
Clerk, William E. Wiley

The speaker of the evening was Mr. Christopher J. Murray, Jr., Supt., George A. Fuller Co., Inc. who talked on the subject of "Construction of the Behavioral Science Building at Harvard University." The talk was excellently illustrated by a multitude of color slides. The building structure essentially

comprised exposed quartz aggregate concrete and exposed prestressed concrete. The only poured-in-place concrete above ground is in the structural columns inside the exposed aggregate column liners, made tight with mortar.

A432 reinforcement was employed and was made continuous by butt-welding. Welding consumed 180 hours per floor for reinforcement and 100 hours per floor for structural steel. Scheduling of welding with CPM controlled.

Foundations were placed at a rate of 165 cu. yds. per hr. whereas the top story concrete was deposited at the rate of 2 cu. yds. per hr.

The derrick was 220 ft. high, and a crane was used as a supplement. Cost of derrick was \$700 per day. Safety was maintained via dual telephone lines to operator.

The construction utilized a phenomenal amount of scheduling to have the precast, prestressed and poured-in-place concrete at the correct place at the right time. The column concrete comprised 4500 psi H.E.S. mixture + 1½% calcium chloride. Staging was cantilevered out from floors below to avoid need of scaffolding the entire building. Only 2 broken stones occurred on the entire job.

The excellent paper was enthusiastically received. The meeting adjourned at 8:30 P.M. Forty-three members and guests were present.

WILLIAM E. WILEY, *Clerk*

MARCH 24, 1965:—A regular meeting of the Construction Section was held on this date at the Society Rooms.

The meeting was called to order at 8:05 P.M. by Chairman Herman Protze.

The report on the previous meeting was accepted as read.

The speaker of the evening was Mr. Herbert M. Priluck, Construction Plan-

ning Consultant, who spoke on "Critical Path Scheduling in Building Construction."

It was first observed that the critical path method is not a panacea but can be a powerful tool when thoughtfully used to plan, schedule, and control the development and construction of a building project. He then illustrated the basic mechanics of CPM by scheduling a simple drainage structure on the blackboard. Based on his observations in applying CPM on building projects as a consultant to New England contractors and engineers, he discussed some of the concepts and misconceptions involved in the use and possible abuse of the critical path. A brief exhibit and explanation of networks and computer outputs actually used on several jobs concluded the talk.

The meeting was adjourned at 11:00 P.M.

Sixty-nine members and guests were present.

WILLIAM E. WILEY, *Clerk*

HYDRAULICS SECTION

FEBRUARY 19, 1965:—The Annual Meeting of the Hydraulics Section of the Boston Society of Civil Engineers was held in the Society Rooms, 47 Winter Street, Boston, Massachusetts and was called to order at 7:15 P.M. by Chairman Keistutis P. Devenis.

The reading of the minutes of the previous meeting was dispensed with and the report of the Nominating Committee was read by the Chairman, Richard F. Dutting. The motion carried to close the nominations and the Clerk was ordered to cast a unanimous ballot for the slate. The following officers were elected to serve for the coming year:

Chairman, Peter S. Eagleson
 Vice-Chairman, Nicholas Lally
 Clerk, Allan Grieve
 Executive Committee,
 Anthanasios A. Vulgaropoulos
 Ronald T. McLaughlin
 Stephen E. Dore

Mr. Devenis introduced the speaker of the evening, Mr. Lyle E. Branagan, Hydraulic Engineer, Chas. T. Main, Inc. Mr. Branagan spoke on "Vortex Investigations of a Submerged Intake at Cornwall Pumped Storage Plant." His remarks were confined primarily to the results of model testing conducted at the Alden Hydraulic Laboratory to determine a design that would prevent the drawdown of air into the submerged intake at the upper pool. His conclusions were that a satisfactory empirical design has been developed, however, there is still much to learn about the causes and actions of vortexes.

The meeting had an attendance of 20 members and adjourned at 8:45 P.M.

NICHOLAS LALLY, *Clerk*

SANITARY SECTION

MARCH 3, 1965:—The annual meeting of the Sanitary Section was held on this date in the Society rooms, following a dinner at the Smorgasbord. The officers elected for the coming year are as follows:

Chairman, William C. Traquair
 Vice Chairman, Robert L. Meserve
 Clerk, Walter M. Newman
 Executive Committee,
 Charles A. Parthum
 Allison C. Hayes
 David Duncan

Speaker for the meeting was Dr. N. Bruce Hanes, Assistant Professor of Civil Engineering, Tufts University, who

presented an interesting illustrated paper entitled "Relationship Between *Escherichia coli*, Type I, Coliform, and Enterococci in Water." Dr. Hanes was accompanied by graduate students C. O'Leary and G. P. Delaney who assisted in the preparation of the paper. Attended by 35 members and guests, the presentation was well received and actively discussed. It will be published in a forthcoming issue of the Journal.

ROBERT L. MESERVE, *Clerk*

STRUCTURAL SECTION

JANUARY 13, 1965:—A regular meeting of the Structural Section was held on this date in the Society rooms and was called to order by the Chairman, Max D. Sorota, at 7:00 P.M.

A Nominating Committee was elected composed of the following:

Myle J. Holley, Chairman
 Percival Rice
 Harl Aldrich

The Chairman introduced the speaker of the evening, Dr. Howard Simpson, of Simpson, Gumpertz & Heger, Inc., who spoke on "The Computer Analysis of Complex Structures."

Dr. Simpson described how computers were used in the analysis of complex structures such as the vertical assembly building at Cape Kennedy, the Haystack antenna, the space environment chamber in Houston, and a large antenna in Australia. Slides were shown depicting the structures and to illustrate how the computer was programmed to analyze complex structures.

After an extensive question and answer period, the meeting was adjourned at 8:30 P.M.

Attendance was 62.

ROBERT L. FULLER, *Clerk*

FEBRUARY 10, 1965:—The annual meeting of the Structural Section was held on this date in the Society rooms and was called to order by the Chairman, Max D. Sorota, at 7:00 P.M.

The election of officers was held. Those elected were:

Chairman,	Donald T. Goldberg
Vice-Chairman,	Robert L. Fuller
Clerk,	Charles C. Ladd
Executive Committee,	
	Fritz F. Hampe
	Richard C. Jasper
	Albert B. Rich

The Chairman introduced the speaker of the evening, Dr. Joaquim L. Serafim, Visiting Professor at M.I.T. and Consulting Civil Engineer in Lisbon, Madrid and Rio de Janeiro, who spoke on "Foundations of Concrete Dams."

Dr. Serafim showed slides of dam sites in Portugal, Spain, Africa, and South America, describing the investigations undertaken to determine the properties of the foundation materials and the steps that were taken to improve these properties and control deflection of the rock.

After an extensive question and an-

swer period, the meeting was adjourned at 8:30 P.M.

Attendance was 62.

ROBERT L. FULLER, *Clerk*

MARCH 10, 1965:—A regular meeting of the Structural Section was held on this date in the Society rooms and was called to order by the Chairman, Donald T. Goldberg, at 7:20 P.M.

The Chairman introduced the speaker of the evening, Mr. William A. Milek, Jr. of the American Institute of Steel Construction, who spoke on "Practical Aspects of Buckling in Structural Steel Design."

The speaker started with a history of columns and buckling loads on various shaped columns. Considerable time was spent on problems connected with the locating of splices when using the plastic method to design continuous beams.

After an extensive question and answer period, the meeting was adjourned at 8:40 P.M.

Attendance was 54.

ROBERT L. FULLER, *Acting Clerk*